Periscope.

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ANATOMY.

28 NOUVELLES RÉCHERCHES SUR LA STRUCTURE FINE DE LA CELULLE NERVEUSE (New Researches upon the Minute Anatomy of the Nerve Cell.) S. Marinesco (La Presse Médicale, 1897, No. 49).

In this article, a continuation of one previously reviewed, the author describes the lesions produced in the cells of the spinal ganglia and anterior horns, by alcohol, arsenic, and the hydrophobic virus. These lesions consist of a chromatolysis, most generally peripheral, but sometimes diffuse, differing somewhat with the different poisons.

Basing his conclusions upon the results of examination, and comparison of normal with pathological cells, he discusses the fine anatomy and probable physiology of the nerve cell. The nerve cell is composed of three essential elements — 1. the chromophile substance; 2. an incolorable "figured" substance; 3. an incolorable amorphous substance, which binds the chromophile granules together. To the second of these, attention is specially called. It consists of a number of very fine fibrils, which cross and recross, making up a network, in whose interstices the chromophile granules are placed. The meshes of this network vary in fineness. To it the name of "spongio-plasma" is applied. Its structure is best shown in cells which have undergone chromatolysis. As to the relation of the fibrils of the axis cylinder process and the protoplasmic processes with the fibrils of the spongio-plasma, the author thinks that they are directly continuous. With regard to the chromophile substance he takes issue with the authors who regard it as having only a nutritive function. For him it is an unstable chemical compound, and serves as a reservoir for the storage of nerve energy. "Kineto-plasm" he calls it. Being unstable, it breaks up easily to enter into new combinations, and in so doing liberates energy, which reinforces the current which has caused the explosion. It may also be caused to liberate energy by the direct action upon it of poisons, as strychnine, etc. Other poisons destroy it at once, producing paresis or paralysis.

ALLEN.

29. ZUR KENNTNISS DER CEREBROSPINAL FLÜSSIGKEIT (The Cerebrospinal Fluid.) H. Nowvatzki. (Deutsche med. Wochenschrift, 1897, No. 2.)

Nowvatzki has made a study of the cerebrospinal fluid, and states that in healthy calves the chemical constituents are as follows: .046

per cent. grape sugar, .01—.03 per cent. albumen, .28 per cent. organic constituents, 1.07—1.1 per cent. of dry residuum, .7—.8 per cent. ash. There were no albumoses or peptones in the organic constituents, and the albumenoid was a globulin.

In the cerebrospinal fluid of paralytics, .5 per cent. grape sugar was found, which amount, however, diminished rapidly after death.

Jelliffe.

30. Über die Anwendung elektiver Färbenmethoden am in Formol gehärteten Centralnervensystem (Formaline as a Fixative for Nervous Tissues.) Gudden (Neurologisches Centralblatt, 16, 1897, p. 24).

Gudden gives the results of experiments on staining nervous tissues which have been hardened in formaline. With such he uses the Nissl staining methods. The material to be used for the Weigert methods requires a preliminary placing in ½ per cent. chromic acid for ten hours, at the temperature of the room to prepare it.

Jelliffe.

31. A Modified Fixing Fluid for General Histological and Neuro-histological Purposes. A. P. Ohlmacher (Journal of Experimental Medicine, 2, 1897).

After experimenting with various modifications of Carnoy's fluid, which is so highly recommended by Van Gehuchten, the author presents the following modifications:

Anhydrous alcohol	80 pts.
Chloroform	15 "
Glacial acetic acid	5 "
Corrosive sublimate	to saturation.

The alcohol employed is made by dehydrating 95 per cent. alcohol with anhydrous copper sulphate. About twenty grammes of powdered corrosive sublimate are required to slightly over-saturate 100 ccm. of the fluid.

Ordinary pieces of tissue are sufficiently fixed in fifteen minutes to half an hour. For the brain, after subdivision, eighteen to twenty-four hours are usually sufficient. Penetration is rapid, and the cytologic details are said to be excellent. Jelliffe.

32. Eine neue Methode zur Färbung des Centralnervensystems (A New Method of Staining the Nervous System.) J. Allerhand (Neurolog. Centralblatt, 16, 1897, p. 727).

The author describes a method whereby materials which have been hardened in a great variey of fixative fluids, including alcohol, can be used in the Weigert-Pal technic. He uses the Liquor ferri sesquichloratis of the German Pharmacopoeia and a preparation of tannic acid:

Thin sections are stained for from fifteen to twenty minutes in a fifty per cent. solution of the iron; after some washing in water the specimens are transferred to a twenty per cent. solution of tannin, which is specially prepared; the tannin being dissolved in distilled water and boiled, and then left in an open flask in the sunlight where, after a length of time, moulds develop; after two or three weeks the fluid is filtered and is then ready for use. The specimens, after treatment in the iron, are placed in the tannin solution, and for from one to two hours, stay at a temperature of about 50 deg. C. They can be differentiated by the regulation Pal methods.

Jelliffe.